

Exhibit A

Claims from 16 patents where the location of an article of manufacture or component thereof is mentioned in a claim

United States Patent

5,468,462

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November 21, 1995

Geographically distributed tritium extraction plant and process for producing detritiated heavy water using combined electrolysis and catalytic exchange processes

20. An apparatus ***located*** at geographically separated remote and central sites for detritiating heavy water comprising:

at the remote site,

a combined electrolysis and catalytic exchange (CECE) plant and hydriding unit, said CECE plant with remote isotope exchange column, remote electrolysis unit, and remote recombiner unit, said CECE plant having means for receiving tritium rich heavy water at a feed point intermediate the top and bottom of the remote isotope exchange column, having means for further enriching tritium relative to deuterium in said tritium rich heavy water below said feed point by an isotope exchange reaction over a wet-proofed catalyst from tritium rich DT/D.sub.2 gas flowing countercurrent to said heavy water, having means for passing said tritium rich heavy water to the remote electrolysis unit to form said tritium rich DT/D.sub.2 gas, having means for providing the remaining portion of said tritium rich DT/D.sub.2 gas to said hydriding unit to form a hydride of said tritium rich DT/D.sub.2 gas for transportation, and a portion of said tritium rich DT/D.sub.2 gas to the bottom of the remote isotope exchange column to provide countercurrent flow to said heavy water, having means for passing tritium lean DT/D.sub.2 gas from the top of said remote isotope exchange column to the remote recombiner unit to form tritium lean heavy water, having means for passing a portion of the tritium lean heavy water to the top of the remote isotope exchange column for the isotope exchange reaction and having means for removing the remaining portion of tritium lean heavy water from the remote CECE plant;

means for transporting said hydride of said tritium rich DT/D.sub.2 gas to the central site; and

at the central site, a de-hydriding unit, a cryogenic distillation plant and a central CECE plant, the de-hydriding unit having means for re-forming said tritium rich DT/D.sub.2 gas and means for passing said tritium rich DT/D.sub.2 gas to the cryogenic distillation plant, the cryogenic distillation plant having means for receiving said DT/D.sub.2 gas from the de-hydriding unit, means for forming tritium gas from the tritium rich DT/D.sub.2 and means for passing the remaining tritium-lean DT/D.sub.2 gas to the central CECE plant, said central CECE plant having a central isotope exchange column, central electrolysis unit, and central recombiner unit, the central CECE plant having means for receiving tritiated heavy water from a central reactor at a feed point in the central isotope exchange

column, the central combined electrolysis and catalytic exchange plant having means for receiving tritium-lean DT/D.sub.2 gas from the cryogenic distillation plant at a feed point intermediate the top and bottom of the central isotope exchange column, having means for further enriching tritium relative to deuterium in said tritium rich heavy water below said feed point by an isotope exchange reaction over a wet-proofed catalyst from tritium rich DT/D.sub.2 gas flowing countercurrent to said heavy water, having means for passing said tritium rich heavy water to the central electrolysis unit to form said tritium rich DT/D.sub.2 gas, having means for providing a portion of said tritium rich DT/D.sub.2 gas to the cryogenic distillation plant and the remaining portion of said tritium rich DT/D.sub.2 gas to said isotope exchange column to provide countercurrent flow to said heavy water, having means for passing tritium lean DT/D.sub.2 gas from the top of said central isotope exchange column to the central recombiner unit to form tritium lean heavy water, having means for passing a portion of the tritium lean heavy water to the top of the central isotope exchange column for the isotope exchange reaction and having means for transporting the remaining portion of the tritium lean heavy water back to the remote site.

System and method for creating personalized image collections from multiple locations by using a communication network

1. An apparatus for use in image collection at a plurality of geographically diverse locations comprising:

a plurality of image capture means, each being *located* at one of the plurality of geographically diverse locations;

image recording means;

a plurality of detecting means, each of said detecting means (i) having a detection range, (ii) being *located* substantially at one of the plurality of geographically diverse locations and being associated with at least one of said image capture means *located* at the same location and (iii) being responsive to the presence, within said detection range, of any guest, of a plurality of guests that are each individually identifiable, to generate an indication that indicates which at least one of said guests is presently to be found within said detection range at the one of the plurality of geographically diverse locations;

a communications network through which said plurality of image capture means and said plurality of detecting means communicate to control means, the control means being responsive to each indication generated by any of said plurality of detecting means for operating said communications network and said plurality of image capture means in such a way that (i) images from each of said at least one image capture means associated with each of said plurality of detecting means generating an indication are recorded, and (ii) said recorded images are segregable by the identity of each of said identifiable guests.

Article tracking system and method

28. A system for tracking articles, managing articles, or both, wherein RFID tags are associated with the articles, comprising: at least one RFID tag associated with an article, said RFID tag including an electronic memory containing information relating to the article and an antenna coupled to the electronic memory for transmitting and/or receiving information-bearing signals in an RFID tag format, wherein the information-bearing signals represent information to be stored in the electronic memory and/or represent information produced from the electronic memory; wherein the information relating to the article stored in the RFID tag is erasable and the RFID tag is re-encodable; at least one bar code associated with the article, the bar code containing information relating to the article that is stored in the electronic memory of the RFID tag and the electronic memory of the RFID tag containing the information that is encoded in the bar code; a first station comprising a first RFID reader for transmitting and/or receiving information-bearing signals in the RFID tag format via a plurality of antennas defining detection regions proximate said first station, wherein ones of said plurality of antennas are *located* proximate a warehouse, a manufacturing facility, a processing facility, a display, a display rack, a shelf, a storage area, a storage bin, an entrance, an exit, an access way, a transport operation, a vehicle, an airplane, a ship, a train, a truck, a container, a storage container, a transport container, a crate, a package, a pallet, a wholesale operation, a check out, a dispensing location, a retail operation, a store, a display facility, or any combination of the foregoing, wherein antennas of the plurality of antennas are sequenced in time at a rate sufficient for receiving information-bearing signals transmitted by an RFID tag within the time that the RFID tag is within the detection region thereof irrespective of the orientation of the RFID tag; a processor including a database; means for communicating information contained in the received information-bearing signals from RFID tags in the detection regions of said first RFID reader to the database of said processor, whereby information is communicated between the electronic memory of RFID tags and the processor via the RFID tag readers of the first station when the RFID tags are in the detection regions thereof; said processor storing in the database thereof at least information contained in the received information-bearing signals, wherein the information stored in the database of said processor includes information relating to the articles; and said processor processing information from the data base thereof for utilizing articles in an order relating to degradation, expiration and/or spoilage of the articles, whereby information stored in the database may be accessed for dispensing articles on a first-in first-out or other basis to reduce spoilage and the RFID tags may be reprogrammed.

Baseball batter training system

1. A system for training a batter to automatically swing at pitched balls corresponding to strikes and to refrain from swinging at pitched balls not corresponding to strikes, the system comprising a visual reference member suspended between a pitcher's mound and a home plate where the batter is located, at a **location** in front of the plate, so that the trajectory of a pitch from a pitcher's release point proximate the pitcher's mound to a point in a strike zone proximate the home plate consistently passes through a portion of the visual reference member, wherein the visual reference member comprises a hoop section having an upper portion missing to define an open upper end between a pair of exposed ends of the hoop, with a surface of the hoop facing the batter having alternating light and dark bands, with the exposed ends representing two of the dark bands, and the system further includes a pair of light-colored supports located to suspend the hoop above the ground, with the supports extending from the exposed ends of the hoop at an angle of from about 40 to about 50 degrees, wherein when a pitched ball corresponding to a strike passes through a predetermined portion of the hoop the user visually completes the broken image provided by the alternating dark/light bands of the hoop and the supports to yield a cone-shaped zone within the hoop.
2. A method for training a batter to automatically swing at pitched balls corresponding to strikes and to refrain from swinging at pitched balls not corresponding to strikes, the method comprising the steps of providing a visual reference member and **locating** the visual reference member between a pitcher's mound and a home plate where the batter is located, at a **location** in front of the plate, so that the trajectory of a pitch from a pitcher's release point proximate the pitcher's mound to a point in a strike zone proximate the home plate consistently passes through a portion of the visual reference member; and repeatedly pitching balls along the path toward a batter adjacent the second **location**, wherein the step of providing a visual reference member comprises providing a hoop section having an upper portion missing to define an open upper end having a pair of exposed ends, with a surface of the hoop facing the batter having alternating light and dark bands, with the exposed ends representing two of the dark bands, and also providing a pair of light-colored supports and suspending the hoop above the ground at a first **location**, with the supports extending from the exposed ends of the hoop at an angle of from about 40 to about 50 degrees, wherein when a pitched ball corresponding to a strike passes through the hoop at the first **location** the user visually completes the broken image provided by the alternating dark/light bands of the hoop and the supports to yield a cone-shaped zone within the hoop.

Generating and dynamically updating databases of WIFI hotspots locations and performance metrics via location mappers

1. In a data processing system, a method comprising: receiving from a remote device a dual transmission hotspot operability/availability transmission (HOT), which includes an identification (ID) of a currently operating and available hotspot, substantially current operating parameters and performance metrics of the hotspot, and a GPS (global positional signal) coordinate of the hotspot, wherein said HOT comprises a first transmission comprising the hotspot's ID and operating parameters and performance metrics and a second transmission comprising the GPS *location* of the hotspot; storing the HOT as an entry within a hotspot *locating* database (HLD) comprising multiple entries of HOTs accessible by received user queries, wherein said storing includes: determining geographic *location* parameters corresponding to the received GPS coordinate, said geographic *location* parameters comprising at least a physical address; correlating the HOT with the geographic *location* parameters; and storing the HOT with the geographic *location* parameters; receiving a request from a user searching for hotspots within a particular geographic *location*; determining which acceptable entries of the multiple entries within the HLD have geographic *location* parameters in proximity to the particular geographic *location*; and providing an output of the acceptable entries to the user, wherein said determining includes: parsing the request for specific performance metrics desired by the user to be available within hotspots returned in response to the request, said specific performance metrics provided by the user within the request; comparing the specific performance metrics to the performance characteristics provided within the each entry of the HLD that are in proximity to the particular geographical *location*; and identifying those entries meeting the metrics desired and existing within proximity to the particular geographical *location* as the acceptable entries; wherein the operating parameters and performance metrics comprise a plurality characteristics from among: identification (ID) of the hotspot; name of the hotspot service provider/vendor; cost associated with accessing the hotspot; availability of the hotspot, including general total uptime and periods of availability for access; bandwidth of the wireless link to the hotspot; estimated bandwidth of the link from the hotspot to the background network; average time to establish a connection to the hotspot, guaranteed minimum download speed and minimum upload speed; maximum, minimum and average latency added by the hotspot link; accessibility range of the hotspot; wireless signal attenuation characteristics exhibited by the hotspot; overall quality of service (QoS) of the hotspot, determined utilizing parameters that define the quality, strength, and usability of the hotspot; overall historical and current user rating of the hotspot; enabling a first user interface within which a user may enter said request, said user interface accessible via an Internet connection to the data processing system; wherein said receiving of the request occurs when the user enters and submits the request within the user interface; wherein said providing provides said output via a graphical display associated with said user interface, and wherein for each presented hotspot, said output comprises one or more of a

street address, driving directions from an origination point entered by the user within the request, and, when graphics output is support by the user interface, a map of the *location* of the hotspot; providing a second user interface within which a user may subscribe to become a HOT *location* mapper; and registering said user with a user account having a number of hotspots that are mapped and provided by the user via a user device, wherein said number of hotspots is tracked and compared to pre-set threshold numbers linked to predetermined incentives provided to the user when the number of hotspots reaches the particular pre-set threshold numbers.

Managed traverse system and method to acquire accurate survey data in
absence of precise GPS data

1. A method of determining the *location* of a target with survey grade precision in a zone where survey-grade precision cannot be achieved using satellite signals, comprising: defining at least one fixed reference point; *locating* a fixed starting point outside the zone using satellite signals to obtain the *location* thereof; determining the *location* of said fixed reference point using range and bearing information relative to said fixed starting point; traversing from said fixed starting point to the target using a tracking method within the zone that does not use satellite signals for determining locations along the traverse and is subject to the accumulation of tracking errors; and reducing accumulating tracking errors by determining locations along the traverse using range and bearing information relative to said at least one fixed reference point; and using said tracking method to determine the *location* of the target with survey grade precision.
2. The method according to claim 1, wherein the step of *locating* a fixed starting point outside the zone comprises using a receiver for a global navigation satellite system.
3. A method for determining the *location* of a target within a zone in which satellite signals are ineffective for obtaining error-free *location*, the method comprising the steps of: defining at least one fixed *location* outside the zone; determining the *location* of at least one fixed reference point using range and bearing information relative to said at least one fixed *location*; manipulating a positioning system subject to accumulative errors in determining *location* along a traverse of the zone to the target; using said positioning system periodically along the traverse to obtain range and bearing information relative to at least one of a fixed reference point and a fixed *location*; using said range and bearing information relative to at least one of a fixed reference point and fixed *location* to reduce accumulated errors of said positioning system and using said position system to determine the *location* of the target.

Can filling system to prevent damage to cans

1. A can filling device for minimizing damage to cans during filling comprising:

rotating filler wheel means for transporting said cans in a substantially horizontal, circular path;

filler wheel pocket means having upper and lower pocket portions for engaging said cans at substantially vertically displaced upper and lower portions of said cans at in a manner sufficient to maintain said cans in a substantially vertical orientation during movement in said path around said rotating filler-wheel means;

star wheel means for transporting said cans to said rotating filler wheel means;

star wheel pocket means for transferring said cans to said upper and lower pocket portions of said filler wheel pocket means, said star wheel pocket means being shaped to provide sufficient clearance in a tangential direction relative to said substantially circular path of the filler wheel means to prevent damage to said cans during transfer from said star wheel pocket means to said filler wheel pocket means;

locator brush means adjacent to the *location* where said cans were transferred from said star wheel pocket means to said filler wheel pocket means for *locating* said cans in the proper relationship with said filler wheel pocket means prior to being filled by engaging said cans at a *location* between said upper and lower pocket portions to force said cans in a radially inward direction relative to said substantially circular path against both said upper and lower pocket portions of said filler wheel pocket means; and

means for moving filler units for filling said cans over the tops of said cans while said cans are in contact with said locator brush means to substantially prevent damage to the tops of said cans.

Transfer mechanism

1. For a transport system wherein a conveying means is provided for carrying thereon an article from at least one *location* therealong to a second *location* therealong, an improved device for removing an article from said conveying means at said second *location* to an adjacent work station comprising:

A. a first platform located below said conveying means;

B. means for raising said first platform a vertical height sufficient to raise an article residing on said first platform above and out of contact with the conveying means;

C. a second platform located on approximately the same horizontal plane as the first platform and between said first platform and the work station;

D. means for raising said second platform a vertical height approximately equal to the vertical height of said first platform when said first platform is in a raised position;

E. belt means forming a closed loop and located above and below said first and second platforms such that when said platforms are in their raised positions, said belt means is in contact with the upper surface of each platform and in further contact with the article to be conveyed; and

F. a fluid driven cylinder located below said first and second platforms functionally connected to said belt means such that when said first and second platforms are raised said belt means moves said article toward or away from said adjacent work station in a direction substantially opposite to the direction of travel of the fluid driven cylinder.

Passenger aerial cableway

1. A method of loading passenger carrying vehicles of an aerial cableway comprising:

transporting a plurality of passenger carrying vehicles, including the chair or gondola portions thereof, along a single travel path from a loading station to an unloading station along transport and return runs,

providing at least first and second loading areas at the loading station, spaced apart longitudinally along the single travel path of said vehicles,

passing each vehicle by each of said at least first and second loading areas successively,

marking each loading area for queuing skiers awaiting a vehicle into a plurality of separate lanes, the number of lanes corresponding to the number of passengers transported by each vehicle, each lane terminating at a *location* adjacent said travel path without interference with the vehicle,

displaying a GO signal for each said lane,

controlling the display of the GO signals for the lanes of each of the loading areas, so that before each vehicle travels past the loading areas the GO signals for only one loading area are activated, the display of the GO signals for the lanes of each loading areas being activated by the arrival of a vehicle at a predetermined *location* only one time out of the number of loading areas, whereby successive vehicles are loaded at successive loading areas, such as one at the first loading areas and the next at the second loading area in the case of two loading areas.

Tooling system for remote load positioning

1. A tooling system for transporting a load to a target from a remote position, comprising:

a support frame adapted to be rigidly mounted at the remote position;

an elongated track supported at the upper end by the frame and the other end adapted to extend beyond the target;

a trolley mounted on the track and freely moveable under the influence of gravity on said track section;

a drum assembly carried by said trolley, said drum assembly including a load drum having diameter $D_{sub.1}$ and a larger control drum having a diameter $D_{sub.2}$, said load drum and control drum connected to turn as a unit; a load support line wound on the load drum at one end and having means at the other end for connection to the load;

a control line affixed to and wound on the control drum in a direction opposite to said support line winding, the number of wraps of control line being equal to or greater than the number of revolutions of the load drum required to move the load between its final position on the target and the carrying position under the trolley, when the load drum is directly above the target;

winch means operable from the remote position, for selectively drawing the control line toward or paying out the control line from the remote *location*;

restraint means carried by the track for stopping the trolley directly over the target;

whereby the load is transported up or down the inclined track while remaining in a vertical attitude such that when positioned over the target the load moves vertically with respect to the trolley, the transport and vertical movement being responsive to said single control line.

Location apparatus

1. **Location** apparatus for use in making a saw cut in a workpiece and comprising, in combination, a base on which the workpiece is placed, at least one saw guide member mounted on said base to define a saw blade guide plane at a predetermined setting to the plane of said base, said saw guide member comprising a pair of elements extending vertically from the base at a spacing from each other to provide an upwardly open gap for the insertion and removal of a saw blade, a side face of one of said elements forming an abutment face for the saw blade and said other element comprising means for resiliently urging the saw blade against said face while yet enabling insertion and removal of the saw blade through said upwardly open gap, a series of fixed locations being provided at spaced positions on said base, a plurality of **location** elements being selectively engageable with respective ones of said locations for defining a series of different and predetermined angular settings for the workpiece relative the saw guide plane permitting correspondingly oriented saw cuts to be made in said workpiece, guide means on said base extending from adjacent said at least one saw guide member transversely to said guide plane, and transverse position **location** means displaceably guided by said guide means for providing a **location** for the workpiece in said direction transverse the saw guide plane.

Method and apparatus for removing non-rectified capsules from a capsule rectification and transport device

4. In a capsule rectification and transport device, wherein said capsules are caused to travel from an upstream *location* to a downstream *location* and wherein said capsules comprise body portions and enlarged cap portions, the combination comprising, hopper means into which a multiplicity of capsules are to be loaded, an endless conveyor, transport means for receiving said capsules from said hopper and for transporting them in a downstream direction along a predetermined path to said endless conveyor, rectification means disposed adjacent to said transport means for rectifying substantially all of said capsules into dispositions in which said cap portions of said rectified capsules lie along one side of a predetermined path and in which said body portions of said rectified capsules lie on the opposite side of said predetermined path, whereby occasionally appearing non-rectified capsules continue to travel on said transport means, and non-rectified capsule removal means located downstream from said rectification means for removing said occasionally appearing non-rectified capsules from said predetermined path, said removal means being positioned adjacent said predetermined path for contacting said non-rectified capsules as they are carried along said predetermined path, and said removal means comprising engagement means physically structured for grasping the non-rectified capsules and being shaped in such a manner so as to grasp only non-rectified capsules while not being capable of grasping rectified capsules, said removal means having capacity for removing said non-rectified capsules from said path, and means provided for removing said non-rectified capsules from said removal means.

Onshore/offshore method and apparatus for drilling

1. An independent and portable offshore drilling structure adapted to perform drilling operations comprising:

a jack-up drilling platform including a plurality of self-contained jack-up means comprising jack-up platform support legs for removably engaging the ocean floor, and being the sole support means for supporting said platform above the water surface during drilling operations, at least some of said jacking means being mounted in sliding engagement to said drilling platform side to enable said slidable jacking means, and jack-up legs therewith, to move from an outboard *location* when supporting said drilling platform above the water surface to a *location* inboard in order to nest said jacking means to a tender vessel while in transit to enable said platform to pass through narrow waterways; and a jacking mechanism for raising and lowering all of said legs relative to said platform;

a drilling rig mounted on said platform for drilling holes in the ocean floor; and

a vessel for supporting said drilling platform and drilling rig, transporting said platform about and for use as a tender during drilling operations.

Protective shroud for offshore oil wells

1. An oil rig instrumentality comprising a protective shroud member comprising a generally cylindrically shaped structure of a length sufficient to extend from the bottom of a body of water and out of the water at the surface, and of sufficient diameter to encompass an oil wellhead and attendant rigging servicing an underwater well, said structure having near its bottom in a position assuming an underwater *location* above and near the bottom of said body of water a plurality of pumping means distributed about the circumference of said structure for pumping liquids with said pumps coupled to water jet structure outside the cylinder, and including control means individually controlling operation of each of said pumping means, thereby to provide controlled water jet motive forces for moving said structure relative to said bottom of the body of water.

Method of and an arrangement for longwall mining

1. In a method of longwall mining, the steps of removing material from a longwall mining face; transporting the removed material in the condition in which it was removed from the face and in dry state, in direction rearwardly away from the face; comminuting the transported material to obtain particles of a predetermined size; admitting the particles into a bunker at a pick-up *location* remote from the mine face; discharging the particles from the bunker into a hydraulic fluid so as to entrain and convey the particles from the pick-up *location* to a separating *location*; separating the particles at the separating *location* from the hydraulic fluid; and recirculating the separated hydraulic fluid back to the pick-up *location* for entrainment of additional particles thereat.

24. An arrangement for longwall mining, comprising means for removing material to be excavated from a longwall mining face; means for transporting the removed material in the condition in which it was removed from the face and in dry state, in direction rearwardly away from the face; means for comminuting the transported material to obtain particles of predetermined size; means for admitting the particles into a bunker at a pick-up *location* remote from the mine face; means for discharging the particles from the bunker into a hydraulic fluid so as to entrain and convey the particles from said pick-up *location* through conduit means to a separating *location*; means for separating the entrained particles from the hydraulic fluid at said separating *location*; and means for recirculating the separated hydraulic fluid back to said pick-up *location* for entrainment of additional particles thereat.

Offshore pipeline electrical survey method and apparatus

1. An apparatus for making offshore structure electrical surveys comprising reference electrode means in the environment proximate the structure, transport means to carry said reference electrode means along the length of the structure in close proximity to the structure, said transport means including a boat and said reference electrode means being towed behind said boat, a supply of flexible, small gauge, disposable elongate electrically conductive insulated magnet wire means carried by said boat for electrically and mechanically connecting the apparatus with the structure at a reference *location* thereon, meter means electrically connected to said wire means and electrode means for indicating the potential difference between said reference electrode means and said electrically conductive magnet wire means, and means driven by said electrically conductive magnet wire means for measuring the length of said electrically conductive magnet wire means as it is played out from the apparatus as it is carried by said transport means whereby the structure-to-environment potential difference may be determined at measured distances along the length of the structure.

11. A method for making offshore structure electrical surveys comprising the steps of:

- (a) initially *locating* the structure to be surveyed,
- (b) traversing the length of the previously located structure towing behind a boat a reference electrode in close proximity to the structure,
- (c) carrying on the boat a supply of, small gauge, disposable elongate electrical insulated magnet wire conductor,
- (d) electrically connecting the conductor to the structure at a reference *location*,
- (e) playing out the conductor from the boat along the length of the structure while transporting the supply of the conductor and towing the reference electrode behind the boat,
- (f) measuring and recording the potential difference between the reference electrode and conductor at spaced test locations along the length of the structure, and
- (g) determining the position of such test locations relative to the pipe.